

EXHIBIT 22

LOUISE ROTH, PH.D.
BARTOLETTI vs. CITIGROUP

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<p style="text-align: right;">Page 229</p> <p>1 MR. BANKS: Could you read the question back for 2 me, Peggy? Thank you. 3 (Designated question is read.) 4 THE WITNESS: It will tend to reduce it, but once 5 again, there is that interaction so that it doesn't 6 completely eliminate it. 7 BY MR. BANKS: 8 Q. Do you consider yourself to be an expert in 9 statistics? 10 A. I consider myself to be a competent 11 methodologist. 12 Q. Have you ever taught a course in statistics? 13 A. I taught an undergraduate course at Barnard 14 College in quantitative methods. 15 Q. When? 16 A. In 1999 or 2000. 17 Q. Is that the last time you've taught a course in 18 statistics? 19 A. That's the last time that I taught statistics. 20 Q. Have you ever published on the area of 21 quantitative methods? I don't mean have you used statistics 22 in your work. 23 A. Right. 24 Q. Have you published any articles or books or 25 treatises on --</p>	<p style="text-align: right;">Page 231</p> <p>1 A. Yes. 2 Q. What do you understand that to mean? 3 A. Small sample is often -- we often define anything 4 less than 30 as a small sample or sometimes as a small cell 5 size. Typically anything less than ten is considered a 6 small cell size and what that means is that a lot of the 7 time, sample statistics are not normally distributed in 8 small sample. So you can't assume that the error terms are 9 normally distributed. Do you know what a normal 10 distribution is? 11 Q. Yes. 12 A. So in a small sample, you don't have a normal 13 distribution and so it means that you can't develop good 14 estimates of things like standard deviation. 15 Q. Are there different methods of testing small 16 samples for statistical significance as opposed to large 17 samples? 18 A. Yes. There -- well, there can be, but the simple 19 fact of small samples often means that they're not as 20 accurate. 21 Q. What kinds of quantitative methods are used for 22 testing statistical significance in small samples as opposed 23 to large samples? 24 A. I think the one that's most often used is 25 Fisher's exact test.</p>
<p style="text-align: right;">Page 230</p> <p>1 A. On methods themselves? 2 Q. -- on quantitative methods? 3 A. No, I have not. I have used quantitative 4 methods, but I have not published methodological articles. 5 Q. Have you ever given testimony in any matter as an 6 expert in statistics or quantitative methods? 7 A. No. 8 Q. Do you consider yourself capable of providing 9 expert opinions on the use of one quantitative method versus 10 a different quantitative method? 11 A. It would depend on what methods you were talking 12 about. So there are some methods that I'm sufficiently 13 well-versed in that I could do that, but I would not have 14 the diversity of some of my colleagues who consider 15 themselves methodologists. 16 Q. Would you consider yourself to have the diversity 17 and experience of, say, Killingsworth to testify about 18 quantitative methods? 19 A. I don't know enough about his specific 20 qualifications to -- I would say probably not, but I don't 21 know enough about his specific qualifications. 22 Q. How about Bloom? 23 A. I would say the same thing. 24 Q. Are you familiar with the statistical phrase 25 "small sample"?</p>	<p style="text-align: right;">Page 232</p> <p>1 Q. Have you used the Fisher's exact test? 2 A. Well, what I would say is that my statistical 3 analysis package will spit it out if cell size is below ten. 4 Do I use it? I think the answer to that is no. I think 5 that one of the things you watch out for is trying to, you 6 know, be careful about making any inferences in cases where 7 you have too few observations. 8 Q. Have you ever written an article or publication 9 or expert report in which you have used a Fisher's exact 10 test to measure for statistical significance? 11 A. No. 12 Q. Is a Fisher's exact test an appropriate method of 13 comparing male to female layoff rates or reduction in force 14 rates if you're dealing with a small sample size? 15 A. I would not view a Fisher's exact test as very 16 reliable because the sample size is so small. 17 Q. In this case, are we dealing with a small sample 18 size or a large sample size? 19 A. Are we talking about the fourth RIF? 20 Q. Yes. 21 A. If you look at the Public Finance Department as a 22 whole, 159 cases, I would say that's still relatively small, 23 but it's large enough to find statistically significant 24 effect if the effect itself is, you know, substantial in 25 magnitude.</p>